

Project scope: Volatile Capture Technologies

2 October 2023

Research question

What is the evidence supporting the use of volatile capture technologies (VCT) in reducing carbon emissions and do they offer good value for money?

Inclusion criteria

The selection of studies for inclusion in the literature review element of the project will be based on the following criteria:

Setting	The devices are designed for use in anaesthetic rooms and operating theatres
Intervention	Volatile gas capture technologies, used for the inhaled anaesthetics isoflurane, desflurane and sevoflurane.
Comparator	Current practice, which includes resource stewardship by anaesthetists
Outcomes	All outcomes as reported in the literature will be used – including CO ₂ e (carbon dioxide equivalent), GWP (global warming potential), capture rates of the devices and costs.
Limits	All study types will be eligible for inclusion, including pilot studies and conference abstracts. Given the nature of the topic, discussion articles by topic experts will also be included (including anaesthetists and climate experts).

Planned activities

SHTG have agreed on the following activities to support the development of an SHTG Recommendation on volatile gas capture technologies:

1. A comprehensive search of the literature
2. A budget impact model that captures initial and ongoing costs for implementing VCT and any cost savings that may be realised by recapturing and reusing these anaesthetic gases.

Engagement

A peer-review process will be conducted to give topic experts an opportunity to comment on the review of the evidence and the modelling work.

A consultation exercise will be conducted to give topic experts an opportunity to comment on a draft recommendation.

End products

At the end of the project, SHTG will publish:

- An SHTG Recommendation on volatile gas capture technologies, including a review of the evidence and economic modelling work
- A plain language summary

Timescales (approximate)

Spring 2024